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Andreas Huttemann has argued against the view of microphysicalism, which is the view that all ontology and all causation occur at the microphysical level. In *What's Wrong With Microphysicalism?* he also critiques Jaegwon Kim's Problem of Causal Exclusion and consequent functionalist causal reductionism by way of an argument that the relation of physical objects at the macrophysical level to the components of those objects at the microphysical level is one of bidirectional dependence rather than one of unidirectional dependence with the macrophysical level dependent upon the microphysical level.

Elliott Sober and Larry Shapiro have also offered an argument against Jaegwon Kim's Problem of Causal Exclusion. Their argument relies upon a "manipulationist" account of causation put forward by James Woodward. On this account of causation, the Problem of Causal Exclusion fails due to the conceptual impossibility of empirically testing for mental causation while simultaneously holding fixed, as a control factor, the supervenience base of that mental property. This serves to limit the scope of broad epiphenomenalist claims while opening up conceptual room for an empirical and scientific approach to the problem of mental causation that cannot be settled a priori. In this paper I will offer three objections to Sober's

and Shapiro's argument. The first objection will make use of Huttemann's pragmatics of causal explanation to show that even if there were an inability to isolate a mental property from its microsupervenience base, this would not permit the type of account of mental causation that Sober and Shapiro are aiming for. The second objection makes use of a thought experiment by Karen Bennett to show that Shapiro's and Sober's claim that higher order mental properties cannot be isolated under their manipulationist account of causation is false. And the third objection uses causal exclusionary reasoning from Jaegwon Kim to show that Shapiro's and Sober's manipulationist account of causation is insufficient to overcome the broad epiphenomenalism that follows from the Problem of Causal Exlusion.

Sober and Shapiro, making use of Woodward's account of causation, argue that the proper way to test for the causal efficacy of an property (or object) is to hold fixed all background conditions in which the property is situated while manipulating the that property while attempting to detect a corresponding change in the property's supposed effects. So if there is a question of the causal efficacy of a mental property, the proper way to test for this is to hold fixed all surrounding background conditions, including the microsupervenience base of that property, while manipulating the mental property itself and checking for changes in effects. There is a

conceptual problem, according to Sober and Shapiro, with holding fixed a microsupervenience base while modifying a supervening property. This is due to the nature of the supervenience relation which is one of necessity from the supervenience base to the supervening property. Holding fixed the supervenience base should by necessity fix the supervening property, with no way to modify the mental property without also modifying the supervenience base. Rather than denying the efficacy of supervening properties altogether, though, Sober and Shapiro argue that this conceptual problem only shows that broad epiphenomalist claims should be limited in scope. Rather than showing that a supervening property could have no causal efficacy whatsoever, the problem raised by Sober and Shapiro, according to them, could show at most that mental properties would be epiphenomenal with respect to a particular lower level class of effects. This is not to say that a mental property could have no effects whatsoever, for a higher level property could conceivably have effects at a higher physical level than the level of its supervenience base. The proper way to test for these other causal powers would also necessarily be by way of manipulation. Sober and Shapiro thus draw a twofold conclusion: Jaegwon Kim's Problem of Causal Exclusion is unsuccessful in showing that mental properties are epiphenomenal in the broad sense, and this failure of the broad epiphenomenalism in favor of Sober's and Shapiro's more restricted

sense of causation opens up conceptual room for there being mental causation outside the scope of whatever specific restrictions there are on lower level effects of higher level causes.

Andreas Huttemann's treatment of similar issues in the theory of causation brings light to bear on a crucial problem with Sober's and Shapiro's critique of the Problem of Causal Exclusion. A key concept within Huttemann's account of causation is that of *isolation*. Huttemann argues for a conception of causation that is law-based and within a framework of mereological (part/whole) relationships. Because of this demand for law-based causation, he examines the pragmatic requirements for positing a law-based causal relationship. He argues, similarly to Sober and Shapiro, that in order to be justified in positing a law-based causal relationship, one must first be able to isolate the relata that make up the relationship. This is a central facet of Huttemann's argument against the view that all causation is strictly micro-causation. There are several examples cited by Huttemann in which there are determinate causal relationships at a higher mereological level for which one is justified in positing causal relationships; but when one examines the processes at a lower level, one finds that it is impossible to isolate the lower-level components adequately enough to form law-based causal ascriptions. He cites quantum phenomena and the specific heat of metals as phenomena that cannot be isolated at the micro-level but for which the macro-

level can be isolated.

If Huttemann is correct that isolation is a necessary condition for causal ascriptions, then it appears that Sober's and Shapiro's use of the supervenience relation and a manipulationist account of causation cannot successfully be used to open up the wiggle room for mental causation that they aspire to achieve. Huttemann himself does not side with Kim that higher order mental properties are broadly epiphenomenal. However, this is only because he does not believe that the supervenience relation actually holds between the microphysical level and the macrophysical level. The mereological picture of reality he advocates (pragmatically or epistemic ally conceived, rather than metaphysically) rather shows a bidirectional dependence between mereological levels rather than a relationship that prioritizes the micro-level. The consequences for Sober's and Shapiro's argument seem clear, in any case. Their heavy reliance on supervenience along with their demand for manipulation against fixed background conditions seems to create a clear problem for positing a law-based causal relation between a supervening mental property and *any effect* due to the impossibility of isolating a supervening mental property from its supervenience base.

My first objection above grants to Sober and Shapiro that they are correct in their claim that there is no way to hold fixed a supervenience base while manipulating the supervening mental

property. My second objection is that this claim by Sober and Shapiro is actually false. Recent work by Karen Bennett makes heavy use of thought experiments designed to show that it is conceivable that a supervenience base need not *necessarily* instantiate a supervening property if that supervenience base outright lacks the requisite background conditions required for the supervening property to be instantiated.

Bennett uses the hypothetical example of a neural pattern that is the supervenience base for some supervening mental property. It is logically possible for this neural pattern to occur in an isolated environment such as a Petri Dish and for its supervening mental property to fail to be instantiated. There may very well be a question about whether this thought experiment is physically possible, a question to be settled through empirical science, but Bennett concerns herself here only with strict logical possibility. What this thought experiment shows is that it may be possible to test for the causal efficacy of a supervening property by removing the supervenience base from its background conditions, hence eliminating the supervening mental property, and attempting to detect a change in the supposed effects of that supervening property.

One might object that there is a problem with this method insofar as Sober and Shapiro have laid down the fixing of the background conditions as a constant as a criterion for their

manipulationist method of causal testing. Bennett, while not explicitly dealing with the question of direct testing of the causal powers of mental properties may nonetheless provide an answer to this objection. Bennett considers two different conceptions of logical sufficiency, or the relation between a supposed cause and its effect. The first conception is a stricter sense of logical sufficiency in which a mental property together with all the requisite background conditions are taken to be sufficient for some effect. The second conception is a less restrictive sense of logical sufficiency in which a mental property itself may be taken to be a sufficient condition for some effect. While it is unclear what would motivate one sense of sufficiency over the other, if one adopts this less restrictive sense of logical sufficiency (which I suppose is pragmatically useful because it allows us to make straightforward claims about the causal efficacy of a mental property), then the strict need to hold fixed each background condition seems to drop away.

Sober and Shapiro, although they argue for an empirical manipulationist approach to causation that may be taken epistemologically, nevertheless make use of a priori conceptual relations, such as the supervenience relation and its consequences, to argue against the Problem of Causal Exclusion. Their critique is not just that that there would be no way to do an experiment to test for the causal efficacy of a supervening mental property, but also that the

reason an experiment like this would fail is because of what they take to be a *logical* impossibility, viz. a fixed supervenience base and a manipulable supervening property. What my considerations about Bennett above show, however, is that the type of experiment described by Sober and Shapiro does not entail a strict logical contradiction, although one might be forced into adopting Bennett's proposal that there are different senses, or levels of strictness, of logical sufficiency.

Along with the considerations above, there also seems to be an outright conceptual problem with the way in which Sober and Shapiro use their critique of Kim's Problem of Causal Exclusion to open up conceptual space for higher order effects of mental causes that fall outside the scope of the restricted epiphenomenalism that they advocate. Recall that the most their revised epiphenomenalism could hold is that one class of properties is epiphenomenal with respect to another, specific class of properties; not that the first class has no causal efficacy at all. Huttemann's critique of ontological dependence aside for the moment, all higher order properties seem to be grounded in, or rather supervene on, lower level properties. This means that any higher order effects of a mental cause would themselves have to supervene on properties at a lower level. Readers of this last sentence should be familiar with where I am taking this line of reasoning from their familiarity with Jaegwon Kim; for Kim argues too that any higher order effects could only be caused by way

of affecting the supervenience base of that effect. Shapiro and Sober fail to wrestle adequately with this idea of Kim's. They are optimistic about their claim that restricted epiphenomenalism allows for the possibility of empirically testing for causation at higher levels. However, they ignore a potential outright conceptual problem for this view. Making heavy use of the supervenience relation between a mental property and its supervenience base in their argument, they would also be forced to admit that this relation holds between any supposed higher-order effect and its microphysical base. Necessity again rears its proverbial ugly head, and one could claim, using an objection that follows Kim's reasoning, thee would be no way for a mental cause to entail a change in a higher-order effect without having gone through that effect's supervenience base as an intermediary. But if a mental property is indeed epiphenomenal with respect to physical properties at lower levels, which Sober and Shapiro seem willing to grant, then it appears that mental properties would indeed have to be epiphenomenal with respect to *any* effects, whether at a higher or at a lower level.